

In the other case a man, aged fifty-four, was under treatment for a bronchitis associated with an old emphysema. The intensity of the cyanosis and dyspnoea, with an apparent absence of valvular disease, led to the same diagnosis as in the first case—"interauricular insufficiency." The cyanosis quickly reappeared on any violent exertion, especially when coughing. The patient left the hospital in a much better condition, so that there was no anatomical proof of the correctness of the diagnosis.

As regards the cause of these symptoms, Roger found that in his first case the heart, though normal in appearance, allowed water to flow from the right auricle to the left auricle through the valve, but not in the reverse way. And this same fact has been noted constantly when carefully searched for at autopsy, even though there be no apparent connection between the auricles. Thus, the intense cyanosis and dyspnoea could be accounted for by the large mixture of venous and arterial blood, due to the increased pressure in the right auricle as compared to the left, this pressure being caused by the various pulmonary conditions or severe coughing spells. Roger noted no auscultatory abnormalities in the heart in these 2 cases, but says that at times a late diastolic or systolic double murmur may be heard to the left of the sternum. Treatment is usually of only transient benefit and after each attack the recovery is slower and less complete. Roger regards this condition as an insufficiency of the interauricular valve or more simply "interauricular insufficiency."

SURGERY.

UNDER THE CHARGE OF

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Primary Carcinoma of the Appendix.—ZAAIJER (*Beit. z. klin. Chir.*, 1907, liv, 239) says that in 2232 cases operated on for appendicitis 18 of the appendices were found to be carcinomatous. He thinks that this number is much too low, since of the 2232 cases only a small part were systematically examined, and by such an examination undoubtedly others like his own two, macroscopically unsuspected, would have been found. He agrees fully with Baldauf that carcinomas of the appendix represent about 1 per cent. of all cases of appendicitis. It is probable that chronic inflammation of the appendix plays an important part in the development of cancer in this organ. Zaaier says that 33 cases of appendix carcinoma have been found by operation and

only 14 by postmortems. Undoubtedly the greater number of operations for appendicitis, if not the cases of appendicitis itself, occur in the second, third, and fourth decades; so that the frequency of appendix carcinoma is that of this period. Since cancer of the intestine is most frequent in the fifth and sixth decades, we see here support of the view that appendicitis is of etiological importance to carcinoma of the appendix. Zaaijer thinks that the very small cancers of the appendix require from ten to thirty years to become the large, fully developed tumors of the intestine, that is, those giving distinct clinical symptoms. In other words, a cancer of the appendix probably requires about ten years to become a recognized cancer of the cecum. Histologically, so far as they have been investigated, these appendix carcinomas have a very malignant character. The histories of the patients show that the symptoms have been those of a simple appendicitis, usually of a chronic recurrent type, and that their carcinomatous nature has not been recognized until the operation. The fact that about 1 per cent. of all appendicitis cases show carcinoma is an additional reason for operation in appendicitis. When a tumor is found at operation it will probably be a cancer. In doubtful cases a piece should be removed, and if possible examined by frozen section. If the findings are positive, the mass, the mesentery, and the associated lymph glands should be thoroughly removed.

Concerning the Methods of Operation in Obturator Herniæ.—BORSZEKY (*Beit. z. klin. Chir.*, liv, 1907, 350) says that of the rarer herniæ the obturator is the most difficult of diagnosis. Even when it is incarcerated, only now and then is the diagnosis made. In the presence of symptoms of intestinal obstruction we usually examine the usual hernial orifices, with which we are satisfied. As a rule there is no considerable swelling, so that only by a very careful examination could we recognize it. The external signs depend upon whether it passes completely or incompletely the obturator canal. If it is complete a swelling may appear immediately below the os pubis to the inner side of the femoral vessels, above the obturator internus muscle and covered anteriorly by the pectineus. When it does not pass completely through the canal, it either forces its way between the upper and middle fibers of the obturator externus or between the two layers of the obturator membrane, then remaining behind the obturator externus. It is then covered by two muscles, the pectineus and obturator externus. The thigh should be flexed, adducted, and rotated somewhat outward. If it is not palpable pressure about the junction of the lower and middle thirds of Scarpa's triangle, producing pain, should arouse suspicion of this hernia, especially if it is increased by abduction and internal rotation of the thigh. Rectal or vaginal examination may be of value, as may pain along the obturator nerve. This symptom is not found in all cases, not even in the incarcerated. Borszeky found it mentioned in only about one-third of the reported cases. With a narrow canal or with a sac full of fluid, it will probably not be absent. It loses much of its diagnostic value from the fact that it is caused by other conditions, as the pressure of a perimetritic exudate (Sachs), or a mass in the iliac fossa (Krönlein). In a large number the hernia was discovered at autopsy. Usually incarceration first compels the patient to seek relief. As soon as the diagnosis is made we must choose between reduction by taxis and operation.

The conditions are not favorable for the former; since the hernia cannot be grasped or palpated on account of the overlying muscle, while the canal is so narrow that violent pressure could easily be dangerous. Taxis by the vaginal route, according to Lejars, is also dangerous. The most important question, therefore, is: By which path can we most safely approach the hernia for operation? The external operation has many dangers because of the depth and obscurity of the field of operation and the proximity of the large bloodvessels. Lejars recommends the lithotomy position and an incision from the inner side of the femoral vessels to the tuberosity of the ischium. When the sac is opened the canal is widened and the bowel reduced. If it is gangrenous it is resected, a very difficult operation. The danger of hemorrhage from increasing the size of the canal, due to the involvement of the closely associated obturator vessels, is considerable, but the greatest danger arises from handling the gangrenous bowel by the external operation. It may rupture and the contents invade the peritoneal cavity. The operation done from the inside is much better, and in some cases the operation begun from the outside must be ended as a laparotomy. In some cases the diagnosis of internal obstruction is made, and the laparotomy done to correct it serves for the reduction and further treatment of the obturator hernia.

Rupture of the Lung Without Fracture of a Rib.—SCHWARTZ and DREYFUS (*Revue de chir.*, 1907, xxvii, 765) report a case in which there was contusion of the lung without fracture of a rib. There was no considerable laceration of the lung, but at autopsy there was found evidence of multiple small hemorrhages. This condition explained the intense respiratory phenomena, coincident with the insignificant hemorrhage and comparatively little intrapleural hemorrhage. Schwartz and Dreyfus collected 36 cases of this kind, although they were frequently associated with multiple traumatism, as fractures of the skull or extremities. While no fracture was discovered in Schwartz and Dreyfus' case, there was found a chondrosternal dislocation of the first two right cartilages. This and the marked ossification of the thoracic cage caused a violent compression of the corresponding part of the lung. The evolution of these small hemorrhages is often, unfortunately, the same as in Schwartz and Dreyfus' case. The contused area becomes a focus of infection with resulting traumatic pneumonia, which carries off the patient.

The prognosis of contusions of the lung is always grave, although in the 29 cases collected by Dionis du Séjour there was 60 per cent. of cures. Of the 7 cases added to this list by Schwartz and Dreyfus 5 died and 1 of the 2 that were cured was doubtful. Death occurs from asphyxia, hemorrhage, or a later complication, as infection. Very often this infection causes a traumatic pneumonia. The symptoms may be very mild and in such a case must be looked for very carefully. Schwartz and Dreyfus believe that very few patients recover. The treatment, unfortunately, is chiefly symptomatic. Absolute rest in that position which gives most easy respiration, should be provided. Hypnotics should be given to calm agitation. If the pneumothorax is increasing, puncture or a pleurotomy is indicated. A very grave emphysema may demand operation, which should be a pleurotomy. Hemo-

thorax likewise may require intervention, the indications for which are the same as for wounds of the chest in general.

Perineal Extirpation of Cancers of the Anus and Rectum.—DELORE and CHALIER (*Revue de chir.*, 1907, xxvii, 784) say that the operation for artificial anus should be reserved for inoperable cases, and that these are being diminished in number as time goes on. Without passing judgment on the sacral method of Kraske, or the abdominoperineal operation, Delore and Chalier believe that the perineal route, or, better, the coccyperineal, suffices in the great majority of cases, if they are attacked early; and that it is available for the anorectal cancers or the cancers of the rectum proper, even the more extensive cases, such as the diffuse cases, the supra-ampullary, certain varieties of the recto-sigmoid cancers. Delore and Chalier have operated on 19 cases, 2 of which were epitheliomas limited to the anus, 6 diffuse anorectal epitheliomas, and 11 cancers localized to the rectum (7 of the ampulla and 4 supra-ampullary); 2 were simply excised without amputation of the anus or rectum. The coccyperineal operation permits the wide and sufficient removal of the growth in the majority of cases, without the mutilation of the Kraske or the dangers of the abdominoperineal operation. A temporary artificial anus was performed in 1 case and gave perfect results. They did not employ it more frequently because of the difficulty in obtaining the patient's consent. They are not in favor of a permanent iliac anus, to obviate the difficulties of an incontinent perineal anus. They believe that the latter is better than a partially continent iliac anus. If the anal cancer is large and extends into the rectum, it will often be serviceable to curette and cauterize the external protuberant portion as a preliminary operation. This will permit more easy and thorough asepsis of the region and closure of the anus at the time of the operation.

The lithotomy position is employed. The incision surrounds the anus and extends forward in the median line a short distance, and backward to the coccyx, which is excised. The rectum with the invaded tissue and the sacral lymph glands are liberated *en masse*. This can be done up to the promontory of the sacrum posteriorly. The rectum is then liberated anteriorly, high up. The vagina can, with care, often be saved. By drawing down the mass the peritoneum is exposed anteriorly and opened with scissors, when gauze is introduced to protect the peritoneal cavity. The sheath of the rectum and the surrounding tissue are then divided, and by a sort of unsheathing of the rectum the mass can be brought down farther. The anterior cul-de-sac of peritoneum is then closed by suturing the cut edge of peritoneum in front to that of the pelvic colon drawn down. The intestine is then cut between forceps, the lower end with the mass is dissected out, and the upper cut end brought down and sutured to the skin about in the position of the normal anus. Iodoform gauze is used for drainage in front of and behind the rectum, and a rubber tube and gauze are introduced into the rectum. The operative mortality in the 19 cases was 10.5 per cent. So far as the late results could be ascertained they were very good as to duration of life. One woman, sixty-eight years of age at the time of operation, was free of recurrence eight years later.

Sarcoma of the Prostate.—PROUST and VIAN (*Annal. des mal. des organ. genito-urinaires*, 1907, xxv, 721) say that Langstaff and Bree, in 1802 and 1806, published the first 2 cases of sarcoma of the prostate. Burckhardt, in 1902, after a careful revision of preceding statistics, furnished a definite list of 24 cases of primary sarcoma of the prostate. Proust and Vian, by a search of the literature and the report of a new case bring the number up to 34. Of these 24, or 73 per cent., were under thirty years of age, and 15 of the 24 under ten years of age. While very rare between thirty and fifty years, it was more frequent beyond fifty years (7 cases out of 34). The symptoms vary markedly, according to the age of the patient; and Proust and Vian make two classes of cases, those under and those over thirty years of age. In the old, retention rarely comes on suddenly, as it does in the young. In the old, the symptoms, aside from increased volume, are rather negative. The symptoms of dysuria are less marked than in hypertrophied prostate, catheterism is rarely difficult and is never impossible. The enlargement is much less marked than in the young and is rarely felt in the hypogastrium. It can always be felt in the rectum. In the young, the growth is so rapid that it is soon beyond the resources of the surgeons, while in the old, operation has obtained appreciable results, as far as the duration of life is concerned. The only operation advisable at the present time in the young is the suprapubic. The perineal exposes the patient to infection and sloughing of the tumor. Operation, even in adults, is very grave and difficult. Proust and Vian believe that for tumors of moderate size the perineal path should be selected, while for very large tumors or those projecting into the bladder the suprapubic should be preferred.

Experimental Substitution for the Mesentery.—LANZ (*Zentralbl. f. Chir.*, 1907, xxxiv, 617) says that in consequence of the fact that particles of the thyroid gland experimentally injected into the peritoneal cavity were found later wrapped up in omentum, he attempted to show whether and to what extent the attachment of the mesentery could be substituted by omentum, with preservation of the normal intestine. August 3, 1906, in a dog, he divided the mesentery between ligatures for about 3 cm. close to the small intestine. He then inserted a piece of the end of the omentum and sutured it to the whole circumference of the detached bowel. October 9 he reopened the abdomen and increased the separation of the mesentery from the bowel about 9 cm. farther and attached another portion of the omentum to the freshly separated bowel, not around the bowel, but simply by its free edge. November 9 the mesentery was separated 14 cm. farther and omentum substituted. November 30, 25 cm. more of the bowel was detached and attached to omentum. This made 50 cm. of bowel cut off from its normal blood and nerve supply, and now depending upon the substituted omentum. At the time of each operation the freshly treated bowel appeared as a contracted band of a bluish-white, mottled color, while that previously operated on had a normal color and its contractility was completely normal. On March 12, 1907, the dog died, when the 50 cm. of bowel had lived two and a half months, with its omental attachment. It had contracted to a length of 40 cm., while its calibre was narrower than its oral and caudal ends. The serous surface was smooth and shiny throughout.

Macroscopically there was no further difference between the affected and the normal bowel. The following practical application of this experiment was carried out by Lanz: A woman, aged sixty years, was admitted to the hospital, February 22, 1907. She had given birth to twenty-one children, was very senile and cachectic, and had a chronic intestinal obstruction supposed to be due to a cancer of the splenic flexure of the colon. Operation, February 27, showed a distended sigmoid flexure and volvulus and a cancer of the pylorus, which was resected. The transverse mesocolon was so adherent to the greater curvature of the stomach that about 6 to 8 cm. had to be cut through and for several centimeters the colon was completely detached from its blood supply. Resection would have been so dangerous that the omentum was brought up and its free edge employed as a substitute for the loss of mesocolon. April 19, 1907, the patient was in a favorable condition and her weight had increased from 39 to 46 kilograms.

A Simple Method of Operation for Stone in the Ureter.—BARTLETT (*Zentralbl. f. Chir.*, 1907, xxxiv, 621) has proved by operation that stones of moderate size in the pelvic portion of the ureter can be easily located and removed by a new and very simple method. An incision is made through the abdominal wall at the outer border of the rectus muscle. The peritoneum, which is not opened, is displaced toward the median line, until the ureter closely bound to the peritoneum is found. The ureter and peritoneum are so loosely attached to the transversalis fascia that they are easily brought into view of the wound. With the ureter grasped between the thumb and finger of the left hand it can be followed throughout its pelvic portion and the stone palpated. When the stone is found it is held between two fingers and pushed strongly against the wall of the ureter. A small opening is made by a sharp knife and the stone extruded and removed from the wound. The opening in the ureter is not sutured. A small rubber drainage tube is introduced to the region of the ureter and brought out of the lower angle of the wound, the rest of which is closed. In 3 cases this operation was completed, each time in ten minutes. The size of the stones varied from that of a bean to that of a hazelnut. In none of the 4 cases was a urinous odor detected in the dressing. The drain was removed in five to six days, and the 4 patients left the hospital, cured, within two weeks after the operation.

The Contributions of Surgery to a Better Understanding of Gastric and Duodenal Ulcer.—MAYO (*Annals of Surgery*, 1907, xlv, 810), from the standpoint of the operating-room results, divides ulcers of stomach into two classes: (1) The indurated or calloused ulcer which can be seen and felt from the outside of the stomach during operation, and (2) the non-indurated mucous ulcer which cannot be identified from the outside. All the positive advances in surgical knowledge concern the first class. Nearly all the failures of surgery are to be found in the second class. The relative frequency of ulcer has been placed at 10 gastric to 1 duodenal. In St. Mary's Hospital, from July 24, 1905, to March 23, 1907, 200 ulcer cases have been operated on. Of these 87 involved the stomach, 98 the duodenum, while 15 were indifferent ulcers of each viscus. The large majority of gastric ulcers involve the lesser curvature

above the pylorus, and extend downward anteriorly and posteriorly in a saddle shape. The typical duodenal ulcer occurs in the upper one and a half inches of the duodenum, and in 96 per cent. of the cases extends upward to or within three-quarters of an inch of the pyloric sphincter. This has led to inclusion of these ulcers with the gastric. A thick-walled external vein best marks the position of the pylorus. The duodenal ulcer occurs well above the common bile duct, with its alkaline secretions. The clinical histories and pathological examinations of removed specimens made it certain that cancer had its origin in indurated ulcers. The topography of ulcer and cancer are the same. Cancer of the duodenum is a rare malady and its etiological relationship is apparently not important. From numerous experiences Mayo looks upon pyloric spasm as an indication of an irritation in some part of the intestinal tract which causes an irregular attempt to close the pylorus and thus prevent the food from entering the disturbed area. At the present time Mayo does not believe that a diagnosis of mucous or other undemonstrated ulcer indicates a surgical operation, unless complications, such as perforation, hemorrhage, or obstruction exist.

Partial Gastrectomy.—FRAZIER (*Annals of Surgery*, 1907, xlv, 950) calls attention to the large number of so-called cases of gastritis in which no definite lesion, such as ulcer, is diagnosed, compared to the few which reach the hands of the surgeons. He reports a case in which, despite some negative findings, the diagnosis was made of carcinoma of the pylorus probably too far advanced for more than a palliative operation. At the time of operation it was decided to do a partial gastrectomy for the indurated area which was still considered to be a cancer. The patient recovered rapidly and three months after the operation had gained thirty-four pounds. The laboratory diagnosis was gastric ulcer. Frazier says that the lesson to be learned from the statistics he has studied is in the danger of placing too much reliance upon what may be called the refinements of laboratory diagnoses. He doubts that the mortality of excision of the pylorus for benign conditions will be greater than that of gastrojejunostomy. The expectation of life should be greater after the former operation, since the favorite seat, and a common predisposing cause, of carcinoma have been removed.

THERAPEUTICS.

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Amyl Nitrite in Hemoptysis.—CRACE-CALVERT (*Lancet*, clxxii, 4362) considers amyl nitrite to be most valuable in practically all instances of hemoptysis. At first it appears to be madness to give a patient,